P802.3cb

Submitter Email: david_law@ieee.org
Type of Project: Amendment to IEEE Standard 802.3-2015
PAR Request Date: 28-Sep-2015
PAR Approval Date: 05-Dec-2015
PAR Expiration Date: 31-Dec-2019
Status: PAR for an Amendment to an existing IEEE Standard
Root Project: 802.3-2015

1.1 Project Number: P802.3cb
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Approved Draft Standard for Ethernet
Amendment: Physical Layer Specifications and Management Parameters for 2.5 Gb/s and 5 Gb/s Operation over Backplane and Copper Cables

3.1 Working Group: Ethernet Working Group (C/LM/WG802.3)
Contact Information for Working Group Chair
  Name: David Law
  Email Address: david_law@ieee.org
  Phone: +44 1631 563729
Contact Information for Working Group Vice-Chair
  Name: Adam Healey
  Email Address: adam.healey@avagotech.com
  Phone: 6107123508

3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)
Contact Information for Sponsor Chair
  Name: Paul Nikolich
  Email Address: p.nikolich@ieee.org
  Phone: 8572050050
Contact Information for Standards Representative
  Name: James Gilb
  Email Address: gilb@ieee.org
  Phone: 858-229-4822

4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 12/2017
4.3 Projected Completion Date for Submittal to RevCom: 10/2018

5.1 Approximate number of people expected to be actively involved in the development of this project: 15
5.2.a. Scope of the complete standard: This standard defines Ethernet local area, access and metropolitan area networks. Ethernet is specified at selected speeds of operation; and uses a common media access control (MAC) specification and management information base (MIB). The Carrier Sense Multiple Access with Collision Detection (CSMA/CD) MAC protocol specifies shared medium (half duplex) operation, as well as full duplex operation. Speed specific Media Independent Interfaces (MIIs) provide an architectural and optional implementation interface to selected Physical Layer entities (PHY). The Physical Layer encodes frames for transmission and decodes received frames with the modulation specified for the speed of operation, transmission medium and supported link length. Other specified capabilities include: control and management protocols, and the provision of power over selected twisted pair PHY types.

5.2.b. Scope of the project: The scope of this project is to specify additions to and appropriate modifications of IEEE Std 802.3 to add 2.5 Gb/s and 5 Gb/s Physical Layer (PHY) specifications and management parameters for operation over channels such as backplanes and twinaxial copper cables consistent with current storage interconnect applications within a single rack.

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: This document will not include a purpose clause.
5.5 Need for the Project: There is a greater bandwidth need than the current 1 Gb/s Ethernet connectivity over backplane and copper cable that serves rotational storage devices ("Hard Disk Drives", HDDs). The object based HDD market is expected to grow significantly to meet the

growing cloud storage demand and the existing 1 Gb/s solution is already bandwidth limited. While existing 10 Gb/s and higher speed solutions fulfill the bandwidth need for HDD's, they do not lend themselves to optimized system cost. The sustained bandwidth needs for HDD are on the order of 2.5 Gb/s to 5 Gb/s and this new standard will provide an optimized system cost vs. performance solution in this growing market segment.

5.6 Stakeholders for the Standard: Users and producers of systems and components for the Ethernet enterprise, cloud, and storage networks.

Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

---

7.1 Are there other standards or projects with a similar scope?: No
7.2 Joint Development
   Is it the intent to develop this document jointly with another organization?: No

---

8.1 Additional Explanatory Notes (Item Number and Explanation):